CompCare
Medical Scheme

Health Topics
HYPOTHYROIDISM

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What is Hypothyroidism?

Hypothyroidism is under activity of the thyroid gland that leads to inadequate production of thyroid hormones and a slowing of vital body functions.

The thyroid gland is located in the front of the neck just below the voice box (larynx). It releases thyroid hormones that affect vital body functions such as heart rate, respiratory rate, the rate at which calories are burned, skin maintenance, growth, heat production, fertility and digestion. Thyroid hormones must therefore be constantly available to perform these functions.

The thyroid gland products two hormones;

- Triiodothyronine (T3)
- Thyroxine (T4)

To maintain the availability of thyroid hormones, the synthesis and secretion of thyroid hormones are maintained within narrow limits by a regulatory mechanism that is highly sensitive to small changes in circulating thyroid hormone concentrations. The thyroid function is controlled by the pituitary gland which produces thyroid stimulating hormone (TSH). This hormone stimulates the thyroid to produce thyroid hormones.

Hypothyroidism may be:

- Primary-caused by disease in the thyroid (about 95% of cases)
- Secondary-caused by disease in the hypothalamus or pituitary (about 1% of cases)

What causes it?

- **Iodine deficiency**
  Iodine is essential for normal thyroid function and it can be obtained only by consumption of foods containing iodine or foods to which iodine has been added e.g. salt. Foods rich in iodine include seafood, seaweed, kelp and dairy products. Worldwide a chronic lack of iodine in the diet is the most common cause of primary hypothyroidism.

- **Auto immune related causes**
  The most common cause of hypothyroidism is inflammation of the thyroid gland, which damages the gland's cells. Hashimoto's thyroiditis, in which the immune system attacks the thyroid gland, is the most common example of this. Turner's syndrome and Down's syndrome are both associated with a higher rate of autoimmune thyroiditis.

- **Treatment of Hyperthyroidism**
  Surgical removal of part or the entire thyroid can result in the reduction of the secretion of thyroid hormones. Patients who have a partial thyroidectomy usually recover several weeks or months later.

- **Radioiodine therapy** for Graves hyperthyroidism or thyroid cancer

- External neck irradiation for cancer.
  The effect is dependent on the radiation dose received and the site of radiation.

- **Iodine excess**
  Iodine excess can occur in patients who take health tonics, potassium iodide solutions or other iodine containing dietary supplement and this affects the mechanism that maintain normal thyroid function.

- **Pregnancy**
  Some women develop hypothyroidism after pregnancy (often referred to as "postpartum thyroiditis").
  - Congenital (birth) defects
  - Medicines

Certain drugs can also cause hypothyroidism, including Lithium, Amiodarone, Stavudine and some cancer treatments.

What are the symptoms?

Females over 50 are at risk.

Early symptoms:

- Being more sensitive to cold
- Constipation
- Depression
- Fatigue or feeling slowed down
- Heavier menstrual periods
- Joint or muscle pain
- Paleness or dry skin
- Thin, brittle hair or fingernails
- Weakness
- Weight gain (unintentional)

Late symptoms, if left untreated:

- Decreased taste and smell
- Hoarseness
- Puffy face, hands, and feet
- Slow speech
- Thickening of the skin
- Thinning of eyebrows

How is it diagnosed?

A physical examination may reveal a smaller than normal thyroid gland, although sometimes the gland is normal size or even enlarged (goitre). The physical examination may also reveal:

- Brittle nails
- Coarse facial features
- Pale or dry skin, which may be cool to the touch
- Swelling of the arms and legs
- Thin and brittle hair

Laboratory tests to determine thyroid function include:

- TSH test
- T4 test

How can hypothyroidism affect my health?

In most cases, thyroid levels return to normal with proper treatment. However, thyroid hormone replacement must be taken for the rest of your life.

Myxedema coma, the most severe form of hypothyroidism, is rare. It may be caused by an infection, illness, exposure to cold, or certain medications in people with untreated hypothyroidism. Other complications are:

- Heart disease
- Increased risk of infection
- Infertility
- Miscarriage

People with untreated hypothyroidism are at increased risk for:

- Giving birth to a baby with birth defects
- Heart disease because of higher levels of LDL ("bad") cholesterol
- Heart failure

Treatment

The purpose of treatment is to replace the thyroid hormone that is lacking.
Medicines:

- Levothyroxine is the most commonly used medication. Doctors will prescribe the lowest dose possible that effectively relieves symptoms and brings your TSH level to a normal range. If you have heart disease or you are older, your doctor may start with a very small dose. Examples of thyroid medicines include Eltroxin® and Euthyrox®

Lifelong therapy is required unless you have a condition called transient viral thyroiditis.

You must continue taking your medication even when your symptoms go away. When starting your medication, your doctor may check your hormone levels every 2- 3 months. After that, your thyroid hormone levels should be monitored once or twice a year.

Your role in managing this condition

Important things to remember when you are taking thyroid hormone are:

- Do NOT stop taking the medication when you feel better. Continue taking the medication exactly as directed by your doctor
- If you change brands of thyroid medicine, let your doctor know. Your levels may need to be checked
- You need to see your doctor at least twice a year to monitor your condition
- Some dietary changes can change the way your body absorbs the thyroid medicine. Talk with your doctor if you are eating a lot of soy products or are on a high-fibre diet
- Thyroid medicine works best on an empty stomach and when taken 1 hour before any other medications
- Do NOT take thyroid hormone with fibre supplements, calcium, iron, multivitamins, Aluminium hydroxide antacids, proton pump inhibitors e.g. Omeprazole, Lansoprazole or Cholestyramine. Coffee can also reduce the absorption of thyroid medicines

After you start taking thyroid replacement therapy, tell your doctor if you have any symptoms of increased thyroid activity (hyperthyroidism) such as:

- Palpitations
- Rapid weight loss
- Restlessness or shakiness
- Sweating

If you start thyroid therapy your symptoms relating to hypothyroidism begin to improve within about two weeks and complete recovery normally takes several months if your condition is more severe.

Myxedema coma is a medical emergency that occurs when the body's level of thyroid hormones becomes extremely low. It is treated with intravenous thyroid hormone replacement and steroid medications. Some patients may need supportive therapy (oxygen, breathing assistance, fluid replacement) and intensive-care nursing.

Disclaimer

The reader should always consult a doctor if they believe they may be suffering from this medical condition. The information contained herein is intended to assist understanding and should not take the place of your doctor's advice or instructions. Whilst every effort has been made to ensure the accuracy of the information contained herein, Universal Care does not accept responsibility for any errors or omissions or their consequences, and shall not be liable for any damages suffered arising out of the use of this information.